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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,419	08/31/2001	Keito Kondoh	62807-011	7823

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EXAMINER

AGGARWAL, YOGESH K

ART UNIT	PAPER NUMBER
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2615

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/943,419

Applicant(s)

KONDOH ET AL.

Examiner

Yogesh K Aggarwal

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4</u> . | 6) <input type="checkbox"/> Other: ____. |

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "PERSON B" has been used to designate both PERSON A and PERSON B. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3 and 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (US PG-PUB # 2002/0071044) in view of Applicant's admitted prior art.

[Claim 1]

Takahashi et al. teaches an image pickup apparatus (figure 1) comprising lens group drive means (figure 2, element 107) for driving a lens group (figure 2, element 101) to thereby adjust every

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focal point of said lens group, image pickup means (figure 1, element 103) for image picking-up one and the same subject to generate a plurality of screens adjacent temporally and different in exposure condition, said plurality of screens being synthesized to form a synthesized image (Paragraphs 11 and 61, figure 4(a), output image), means for detecting focal voltages from said plurality of screens and storing said detected focal voltages; and focal voltage selecting means for selectively outputting one of said stored focal voltages on the basis of a predetermined selection criterion, wherein automatic focusing is carried out in accordance with said focal voltage outputted from said focal voltage selecting means (Paragraphs 49-53, figures 1-3).

Takahashi fails to teach focal voltages containing high-frequency components. However Applicant's admitted prior art teaches that focal voltages contain high-frequency components (Paragraph 6). Therefore taking the combined teachings of Takahashi and Applicant's admitted prior art it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have focal voltages containing high-frequency components in order to maximize a high-frequency component to obtain an auto-focusing operation. The benefit of doing so would be to maximize a high-frequency component, which is well known in the art and used for an auto-focusing operation.

[Claim 3]

Takahashi teaches a lens 101 being driven by the focus drive circuit 107 in which said focal voltage selecting means (switch 30) outputs focal voltage to the focus drive circuit 107 to drive the lens 101.

[Claim 4]

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Takahashi teaches that if contact a of switch 29 (or 30 for AF) is selected, 1/1000 sec. storage signal of an odd-field is selected as reference for auto-focusing operation and if contact b of switch 29 (or 30 for AF) is selected, 1/60 sec. storage signal of an odd-field is selected as reference for auto-focusing operation (Paragraph 53). Therefore it selectively outputs a focal voltage for focusing in accordance with magnitudes of said focal voltages, which will be different corresponding to different storage times.

[Claim 5]

Takahashi teaches that the thresholds Th1 and Th2 are set based upon luminance level-frequency distribution curve used for comparison to select a particular focal voltage as shown in figures 6a and 6b (Paragraph 56) belonging to odd and even fields which correspond to different exposures.

[Claim 6]

Takahashi discloses thresholds Th1 and Th2 are set based upon luminance level-frequency distribution curve used for comparison to select a particular focal voltage as shown in figures 6a and can be varied to Th1' and Th2' based upon the hysteresis curves (Paragraphs 64, figure 6c).

[Claim 7]

Takahashi teaches wherein said means for storing said focal voltages detected from said plurality of screens extracts specific areas from said plurality of screens to be focused (Paragraphs 11 and 61, figure 4(a), output image), on the basis of information of luminance level distributions expressing characteristics of said subject, said information of luminance level distributions being obtained from said plurality of screens adjacent temporally and different in exposure condition (Paragraph 56, See figure 6a and 6b), said information of substitute areas being obtained when said synthesized image is generated; said means detects focal voltages from said extracted

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specific areas of said plurality of screens; and said means stores said detected focal voltages (Paragraphs 12, 49-53, figures 1-3).

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (US PG-PUB # 2002/0071044) in view of Applicant's admitted prior art and in further view of Jang et al. (US Patent # 5,200,828).

[Claim 2]

Takahashi in view of Applicant's admitted prior art teaches detecting focal voltages detected from said plurality of screens adjacent temporally and different in exposure condition but fail to teach wherein normalization processing is carried out on each of said focal voltages so that an influence of variation in said exposure condition on said focal voltages is eliminated. However Jang et al. teaches that the nonlinear weight curves are changed by exposure value signals (brightness) to adjust the focus by normalizing regardless of the magnitude of the illumination (col. 6 lines 42-46). Therefore taking the combined teachings of Takahashi, Applicant's admitted prior art and Jang et al., it would have been obvious to one skilled in the art at the time of the invention to have been motivated normalization processing carried out on each of said focal voltages so that an influence of variation in said exposure condition on said focal voltages is eliminated. The benefit of doing so would be to do auto-focusing without the influence of a variation in the exposure condition.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (US PG-PUB # 2002/0071044) in view of Applicant's admitted prior art and in further view of Soga et al. (US Patent # 5,376,964).

[Claim 8]

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Takahashi in view of Applicant's admitted prior art teaches varying the position of the lens according to the focus drive circuit but fails to teach "wherein when said exposure condition associated with said focal voltage outputted from said focal voltage selecting means varies, an offset from the focal point is calculated again, and a series of control in a period when a focused point is detected is performed again". However Soga et al. teaches that when the exposure condition changes during focusing control, focusing is performed anew after the change in the amount of exposure (col. 7 lines 36-50, col. 27 lines 51-61). Therefore taking the combined teachings of Takahashi, Applicant's admitted prior art and Soga et al., it would have been obvious to one skilled in the art at the time of the invention to have been motivated to calculate a new focus value upon changing an exposure condition in order to get a new focus at a different exposure condition. The benefit of doing so would be to have an accurate focusing control at all times and it is also possible to carry out focusing control when the exposure conditions change.

6. Claims 9 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (US PG-PUB # 2002/0071044) in view of Applicant's admitted prior art and in further view of Ueda (US Patent # 5,212,557).

[Claims 9, 11-14]

These claims are similar to claims 1, 3-6 except the limitation of "means for cutting out predetermined areas from said plurality of screens respectively and means for detecting focal voltages based upon the cut-out areas". However Ueda teaches dividing the imaging frame into blocks to determine a focus by controlling the position of the lens system through the lens driving mechanism (col. 10 lines 58-63). Therefore taking the combined teachings of Takahashi, Applicant's admitted prior art and Ueda, it would have been obvious to one skilled in the art at

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the time of the invention to have been motivated to divide the imaging frame into blocks to determine a focus by controlling the position of the lens system through the lens driving mechanism and incorporate this feature into the camera system of Takahashi in order to perform accurate auto focusing. The benefit of doing so would be to calculate the distance of each block and then perform focusing on each individual block thereby leading to soft toning of the background.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (US PG-PUB # 2002/0071044) in view of Applicant's admitted prior art, Ueda (US Patent # 5,212,557) and in further view of Jang et al. (US Patent # 5,200,828).

[Claim 10]

Takahashi in view of Applicant's admitted prior art teaches detecting focal voltages detected from said plurality of screens adjacent temporally and different in exposure condition but fail to teach wherein normalization processing is carried out on each of said focal voltages so that an influence of variation in said exposure condition on said focal voltages is eliminated. However Jang et al. teaches that the nonlinear weight curves are changed by exposure value signals (brightness) to adjust the focus by normalizing regardless of the magnitude of the illumination (col. 6 lines 42-46). Therefore taking the combined teachings of Takahashi, Applicant's admitted prior art and Jang et al., it would have been obvious to one skilled in the art at the time of the invention to have been motivated normalization processing carried out on each of said focal voltages so that an influence of variation in said exposure condition on said focal voltages is eliminated. The benefit of doing so would be to do auto-focusing without the influence of a variation in the exposure condition.

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Takahashi in view of Applicant's admitted prior art and Jang fail to teach, "means for cutting out predetermined areas from said plurality of screens respectively and means for detecting focal voltages based upon the cut-out areas". However Ueda teaches dividing the imaging frame into blocks to determine a focus by controlling the position of the lens system through the lens driving mechanism (col. 10 lines 58-63). Therefore taking the combined teachings of Takahashi, Applicant's admitted prior art, Jang and Ueda, it would have been obvious to one skilled in the art at the time of the invention to have been motivated to divide the imaging frame into blocks to determine a focus by controlling the position of the lens system through the lens driving mechanism and incorporate this feature into the camera system of Takahashi in order to perform accurate auto-focusing. The benefit of doing so would be to calculate the distance of each block and then perform focusing on each individual block thereby leading to soft toning of the background.

8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (US PG-PUB # 2002/0071044) in view of Applicant's admitted prior art, Ueda (US Patent # 5,212,557) and in further view of Soga et al. (US Patent # 5,376,964).

[Claim 15]

Takahashi in view of Applicant's admitted prior art and Ueda teaches varying the position of the lens according to the focus drive circuit but fails to teach "wherein when said exposure condition associated with said focal voltage outputted from said focal voltage selecting means varies, an offset from the focal point is calculated again, and a series of control in a period when a focused point is detected is performed again". However Soga et al. teaches that when the exposure condition changes during focusing control, focusing is performed anew after the change in the

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amount of exposure (col. 7 lines 36-50, col. 27 lines 51-61). Therefore taking the combined teachings of Takahashi, Applicant's admitted prior art, Ueda and Soga et al., it would have been obvious to one skilled in the art at the time of the invention to have been motivated to calculate a new focus value upon changing an exposure condition in order to get a new focus at a different exposure condition. The benefit of doing so would be to have an accurate focusing control at all times and it is also possible to carry out focusing control when the exposure conditions change.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh K Aggarwal whose telephone number is (703) 305-0346. The examiner can normally be reached on M-F 9:00AM-5:30PM.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YKA
September 24, 2004


TUAN HO
PRIMARY EXAMINER